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UNITED STATES DEPARTMENT OF AGRICULTURE

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Vol. 9, No. 10.

May, 1940.

Accidents.

Progress in farm accident prevention. By I. D. Graham. In Thirty-first biennial report of the Kansas State board of agriculture... for the years 1937 and 1938. Topeka, Kansas State board of agriculture, 1938. p.28-29.

Agriculture.

Annual report for 1939 Agricultural extension service, Rhode Island State college. Kingston, R.I. 1940. 16p. Rhode Island State college. Extension service. Bulletin no.78.

A chemist looks at agriculture. By C. M. A. Stine. In Proceedings of the Association of land-grant colleges and universities. Fifty-third annual convention, Washington, D.C., November 15-17, 1939. New Haven, Conn., Quinnipiac press, inc., 1940. p.69-71. Abstract.

Fifty-second annual report, 1938-1939. By J. L. Hills. Burlington, Vermont, 1939. 31p. University of Vermont and State agricultural college. Agricultural experiment station. Bulletin no.452.

Fifty-second annual report of the South Carolina experiment station of Clemson agricultural college for the year ended June 30, 1939. Clemson, S.C., 1939. 199p.

Increasing interest in agricultural history. Experiment station record. v.82,no.4. April, 1940. p.433-435.

Part-time subsistence farming. Monthly labor review. v.49,no.3. September, 1939. p.623-628. Extent and relative importance of part-time farming. Characteristics of part-time farmers. Nonagricultural occupations of part-time farmers. Incomes and expenses of part-time farmers' families. Standard of living of part-time farmers' families.

Report of the Hawaii agricultural experiment station, 1939. Honolulu, University of Hawaii, 1940. 89p.

Social and economic problems of Southern agriculture. By W. C. Lassetter. Journal of the American society of agronomy. v.32,no.2. February, 1940. p.89-95.

Agriculture. (Cont'd).

Thirty-first biennial report of the Kansas State board of agriculture...for the years 1937 and 1938. Topeka, Kansas State board of agriculture, 1938. 514p.

What's new in farm science. Part II. Annual report of the director Agricultural experiment station, University of Wisconsin. Madison, Wis., 1940. 96p. University of Wisconsin. Agricultural experiment station. Bulletin no.449.

Air Conditioning.

Air conditioning: nonregenerative "Calorider" performance. By C. R. Downs and J. W. Spiselman. Industrial and engineering chemistry. Industrial edition. v.31,no.6. June, 1939. p.681-698. Paper deals with improved form of apparatus and summarizes results obtained with various test installations.

Brooders, Electric.

Electric pig brooder. Moscow, Idaho, 1940. 1p. University of Idaho. Cooperative extension work in agriculture and home economics. Idaho rural electrification progress. February, 1940.

Building Construction.

Building construction, 1921 to 1938. Prepared by Division of construction and public employment. Washington, U.S. Govt.print. off., 1940. 114p. U.S. Bureau of labor statistics. Bulletin no.668.

The rat and ratproof construction of buildings. By B. E. Holsendorf. Washington, U.S. Govt.print.off., 1937. 68p. "References": p.67-68. U.S. Public health service. Supplement no.131 to the Public health reports.

Theory of limit design: discussion. By L. H. Donnell. American society of civil engineers. Proceedings. v.66,no.1. January, 1940. p.121-124.

Castor Beans.

Growing of castor beans. Compiled by E. L. Little. Columbus, O., 1940. 8p. mimeographed. "References:" p.8. National farm chemurgic council. Research division report no.505.

Chemistry, Technical.

Synthetics step out. By Edmund Stone. Forbes. v.45,no.5. March 1, 1940. p.14,30-31. Watch synthetic rubber. One reason is this overwhelming fact: An acre of rubber trees produces 500 pounds a year; an acre of factory space can produce 20,000,000 pounds a year!

Conservation of Resources.

Conservation--Farmers' part in national defense. By H. A. Wallace.
In Proceedings of the Association of land-grant colleges and
universities. Fifty-third annual convention, Washington, D.C.,
November 15-17, 1939. New Haven, Conn., Quinnipiac press,
inc., 1940. p.74-85.

Corn.

Report on agricultural research for the year ending June 30, 1936.
Part II. Iowa Corn research institute. First annual report.
Ames, Iowa, Iowa State college of agriculture and mechanic arts.
Agricultural experiment station, n.d. 72p.

Report on agricultural research for the year ending June 30, 1937.
Part II. Iowa Corn research institute. Second annual report.
Ames, Iowa, Iowa State college of agriculture. Agricultural
experiment station, n.d. 84p.

Report on agricultural research for the year ending June 30, 1938.
Part II. Iowa Corn research institute. Third annual report.
Ames, Iowa, Iowa State college of agriculture. Agricultural
experiment station, n.d. 80p.

Report on agricultural research for the year ending June 30, 1939.
Part II. Iowa Corn research institute. Fourth annual report.
Ames, Iowa, Iowa State college of agriculture. Agricultural
experiment station, n.d. 88p.

Cotton.

Cottonseed treatment. By R. J. Haskell. Washington, U.S. Govt.
print.off., 1940. 8p. U.S. Department of agriculture.
Leaflet no.198.

Effects of inbreeding cotton with special reference to staple
length and lint percentage. By L. M. Humphrey. Fayetteville,
Ark., 1940. 16p. University of Arkansas. Agricultural
experiment station. Bulletin no.387.

Seed treatments for cotton. By K. S. Chester. Stillwater, Okla.,
1940. 8p. Oklahoma agricultural and mechanical college.
Experiment station circular no.89.

Cotton Gins and Ginning.

Some regional influences on ginning problems and methods. By
Chas. A. Bennett and Francis L. Gerdes. Cotton ginners'
journal. v.11,no.7. April, 1940. p.13,16,18-19,42.

Why a cotton ginning laboratory? By F. E. Lichte. Cotton gin-
ners' journal. v.11,no.7. April, 1940. p.24,26,31.

Cotton Machinery.

Comparison of one-row horse-drawn combination cotton planters and fertilizer distributors. By C. S. Patrick and others. In Fifty-second annual report of the South Carolina experiment station of Clemson agricultural college for the year ended June 30, 1939. Clemson, S. C., 1939. p.45.

Cotton picking machinery: short list of references. Compiled by E. L. Day. Washington, D.C., 1940. 19p. mimeographed. U.S. Bureau of agricultural economics. Economic library list no.9.

Culverts.

Culverts for mosquito control. Engineering news-record. v.124,no.17. April 25, 1940. p.72-73. Structural and hydraulic details of correct design are given.

Dairy Products.

Development of new products. By A. R. Stevenson, Jr. Mechanical engineering. v.61,no.9. September, 1939. p.661-664. Paper deals primarily with development of products which bring company into new lines of business.

New uses for dairy products. By O. E. Reed. Hoard's dairyman. v.84,no.24. December 25, 1939. p.663,673,681.

Doors.

Examples of interior doors and doorways from the eighteenth and early nineteenth centuries. By Frank Chouteau Brown. Pencil points. v.21,no.4. April, 1940. p.245-260. Monograph series: records of early American architecture.

Dryers and Drying.

Typical dryer calculations. By O. A. Hougen. Chemical and metallurgical engineering. v.47,no.1. January, 1940. p.15-17. Part I. Considers two problems involving tray and drum drying during constant-rate drying period.

Electric Lines.

Development of rural electric lines. By H. S. Hinrichs. In Thirty-first biennial report of the Kansas State board of agriculture...for the years 1937 and 1938. Topeka, Kansas State board of agriculture, 1938. p.75-80.

Electricity - Distribution.

Electric light and power industry in the United States, year 1939. New York, 1940. 39p. Edison electric institute. Statistical bulletin no.7.

Electricity on the Farm.

Electric heat for curing sweet potatoes. By E. T. Swink.
Agricultural engineering. v.21,no.1. January, 1940.
p.9-10,12. Table 1. Data on electric sweet-potato curing
houses in seven southern states.

Engines.

Gasoline engine combustion. By Hector Rabezzana, Stephen Kalmar
and Alfred Candelise. Automotive industries. v.81,no.10.
November 15, 1939. p.534-542. Part one.

Erosion Control.

First principles of soil erosion control. By H. B. Roe. St.
Paul, Minn., 1940. 1p. University of Minnesota. Agri-
cultural extension division. Agricultural engineering news
letter no.97.

Soil conservation and its relation to machinery. By Ralph E. Hansen.
Northwest farm equipment journal. v.54,no.2. February,
1940. p.54-57.

Evaporation.

Present trend in evaporation experiments. By Carl Rohwer. In
Proceedings of Hydraulics conference. Iowa City, Iowa, 1940.
University of Iowa studies. Studies in engineering. Bulletin
no.20. p.81-91. "References": p.91.

Farm Equipment.

Handle livestock carefully. Missouri farmer. v.32,no.3.
February 1, 1940. p.4-5. Gives plan for loading chute.

Homemade rubber tired carts and trailers. By H. H. DeLong.
Brookings, S.D., 1940. 31p. South Dakota State college
of agriculture and mechanic arts. Agricultural experiment sta-
tion. Bulletin no.333.

Farm Income.

Farm cash income in 1939 by states. Farm implement news.
v.61,no.4. February 22, 1940. p.18.

Farm Labor.

Productivity of farm labor, 1909 to 1938. Monthly labor review.
v.49,no.2. August, 1939. p.282-294. Table 1.--
Estimated changes in agricultural production, employment, and
output per farm worker, 1909 to 1938.

Farm Labor. (Cont'd).

Studies in Vermont dairy farming. XI. Labor as a cost of milk production. By J. A. Hitchcock and L. N. Paquette. Burlington, Vt., 1938. 16p. Vermont agricultural experiment station. Bulletin no. 442.

Wages and income of farm workers, 1909 to 1938. Monthly labor review. v. 49, no. 1. July, 1939. p. 59-71.

Farm Machinery and Equipment.

California farm machinery conference. By F. Hal Higgins. Farm implement news. v. 61, no. 4. February 22, 1940. p. 23, 29.

Cost of a combine-harvester-thresher for five years 1933-37. By S. J. Upfold. Farm economist. v. 3, no. 1. January, 1939. p. 6-8.

Crawler for potato pickers takes backache out of job. Popular mechanics. v. 73, no. 4. April, 1940. p. 485.
Designed at Michigan State college. Operator sits near ground level with two bag-openings within easy reach. After little practice he is able to work steadily at pace equal to his top speed when picking into crate, and with less injury to potatoes. Three-quarter horsepower gasoline washing-machine engine drives crawler by friction against tire of single rear wheel. It is steered by foot and speed varies from one-tenth to about two miles per hour. It is said that cost of building crawler should not exceed fifty dollars if some secondhand material is used.

Farm machinery improvement. By J. E. Stanford. Southern agriculturist. v. 70, no. 3. March, 1940. p. 8.
Reviews 25 years of development.

Flax attachment for A-C combine. Northwest farm equipment journal. v. 54, no. 4. April, 1940. p. 35.

McCormick-Deering four-foot combine. Northwest farm equipment journal. v. 54, no. 4. April, 1940. p. 37-38.

Mechanizing the small farm. Popular mechanics. v. 73, no. 4. April, 1940. p. 536-539, 140A, 141A, 143A.

Millard's farm equipment directory, 1940. Kansas City, Mo., Implement and tractor, 1940. 210p.

More tractors, fewer combines sold in 1939. Implement and tractor. v. 55, no. 4. February 17, 1940. p. 16-17.
Manufacture and sale of tractors, 1939 and 1938. Manufacture and sale of combines and grain threshers, 1939 and 1938.

Farm Machinery and Equipment. (Cont'd).

U.S. asks manufacturers for data for census of manufactures and report of farm equipment production and sales. Farm implement news. v.60,no.24. November 30, 1939. p.31.

Various wheats tried for combine harvesting. In Progress of agricultural research in Ohio, 1937-1938. Wooster, Ohio, 1939. p.64-66. Ohio agricultural experiment station. Bulletin no.600.

Fences.

Farm fences. By M. A. R. Kelley. Washington, U.S. Govt.print. off., 1940. 57p. U.S. Department of agriculture. Farmers' bulletin no.1832.

Fences, Electric.

Electric fence. By H. F. Agnew and W. C. Place. Pennsylvania farmer. v.122,no.5. March 9, 1940. p.5,18,32.

Fertilizer Placement.

Fertilizer placement. In Fifty-second annual report of the South Carolina experiment station of Clemson agricultural college for the year ended June 30, 1939. Clemson, S. Car., 1939. p.140-141.

Fertilizers.

American fertilizer practices (second survey): report relating to the use of commercial plant food presenting information obtained by a survey among 32,000 farmers in 35 states. By H. R. Smalley, R. H. Engle and Herbert Willett. Washington, D.C., National fertilizer association, 1939. 128p.

Fire Protection.

Study of the fire resistance of building materials. By H. D. Foster. Columbus, Ohio, 1940. 58p. Ohio state university. Engineering experiment station. Bulletin no.104.

Flax.

More flax for Kansas. By R. I. Throckmorton. In Thirty-first biennial report of the Kansas State board of agriculture... for the years 1937 and 1938. Topeka, Kansas State board of agriculture, 1938. p.143-146.

Floods and Flood Control.

Flood forecasting in the upper Mississippi valley. By B. S. Barnes.
In Proceedings of Hydraulics conference. Iowa City, Iowa,
1940. University of Iowa studies. Studies in engineering.
Bulletin no.20. p.230-239. "References":p.239.

Floods of December 1937 in Northern California. Washington,
U.S. Govt.print.off., 1939. 497p. processed. U.S. Geolo-
gical survey. Water-supply paper no.843.

Probable maximum flood flow from a small watershed. By J. K. Bart-
lett and T. G. Pfiffner. Civil engineering. v.10,no.4.
April, 1940. p.233-235.

Stage transmission in the lower Mississippi river. By G. H. Matthes.
In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940.
University of Iowa studies. Studies in engineering. Bulletin
no.20. p.240-247.

Floors.

Performance test of floor coverings for use in low-cost housing:
Part 2. By P. A. Sigler and E. A. Koerner. Washington, D.C.,
1940. 20p. "Selected references": p.20. National
bureau of standards. Building materials and structures.
Report BMS43.

Flow Meters.

Computing horsepower from revolving watt-hour meters. Water works
and sewerage. Reference and data section. v.87,no.4.
April, 1940. p.34-35.

Flow of Water and Gases.

Backwater curves in theory and practice. By C. J. Posey. In Pro-
ceedings of Hydraulics conference. Iowa City, Iowa, 1940.
University of Iowa studies. Studies in engineering. Bulletin
no.20. p.205-213. "References": p.212-213.

Flow in pipe grid systems. By Richard G. Tyler. Water works and
sewerage. Reference and data section. v.87,no.4. April,
1940. p.44-46.

Pipe line friction coefficients. Water works and sewerage.
Reference and data section. v.87,no.4. April, 1940.
p.40-42. Summary of the findings of the Committee on
pipe line friction coefficients.

Propagation of waves in steep prismatic conduits. By H. A. Thomas.
In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940.
University of Iowa studies. Studies in engineering. Bulletin
no.20. p.214-229.

Flow of Water and Gases. (Cont'd).

Suspended-load control and the problem of channel stabilization.
By E. W. Lane. In Proceedings of Hydraulics conference.
Iowa City, Iowa, 1940. University of Iowa studies. Studies
in engineering. Bulletin no.20. p.193-201. "References":
p.201.

Foods, Frozen.

Frozen foods affecting farmers. By S. M. Udden. Refrigerating
engineering. v.39,no.2. February, 1940. p.99.
Where canners or other packers enter freezing effect is to
improve quality of farming in their vicinity, via avenue of
what we call production control. Under controlled production
plan packer decides on type of seed best adapted to territory
where growing is to be undertaken. After he has obtained his
supply of seed and has decided to produce product in some given
area, he then investigates farmers in his area and picks out
those, who in his mind, seem to be most progressive, those who
believe in up-to-date methods of farming, those who are energetic
and who have been successful and in majority of cases those who
are well recommended by local agricultural agents. Contracts
are then made with farmers so chosen to grow a given number of
acres of product, packer knowing about what production may be
expected per acre. Knowing what he can afford to pay for prod-
uct, he then agrees to pay farmer so much per ton or per 100 lb.
Packer then furnishes services of necessary men and gives
him complete schedule of operations during growing period.
Definite date is set for each farmer for planting. They are
instructed as to cultivation, and in irrigated areas, they are
advised as to watering. As the product is maturing the packer
makes tests of product and is able to set up schedule for har-
vesting.

Quick-frozen foods. By S. R. Winters. Southern agriculturist.
v.70,no.3. March, 1940. p.46.

Forage Crops.

Early cut artificially dried hays for dairy cows. By O. M. Camburn
and C. H. Jones. Burlington, Vt., 1939. 8p.
Vermont agricultural experiment station. Bulletin no.446.

Fuels.

Liquefied gas for the household. By A. H. Senner and Helen S. Hol-
brook. Stove builder. v.5,no.4. April, 1940.
p.16-19,64-68. Sets forth not only comparative costs of
different types of appliances available for use in rural areas,
but discusses efficiency, convenience, safety and cleanliness.

Greenhouses.

How to build an inexpensive lean-to greenhouse. By Hi Sibley.
American builder. v.62,no.3. March, 1940.
p.82-83.

Heat Transmission.

Estimating heat flow through sunlit walls. By C. O. Mackey and
L. T. Wright, Jr. Heating and ventilating. v.37,no.3.
March, 1940. p.43-47. Part I--Walls of one material.
Outlines method of determining maximum rate at which heat flows
to indoor air through wall of single material. Also shows how
to determine time of day at which maximum heat flow occurs.

Heating.

Hot flames. By John W. Schulz. Fueloil journal. v.18,no.10.
April, 1940. p.14-16. Designing small fireboxes.

Standards for heating and ventilating. Architectural record.
v.87,no.3. March, 1940. p.100-101.

Hotbeds and Cold Frames.

Hotbeds and coldframes. By H. L. Seaton, D. E. Wiant and J. H. Muncie.
East Lansing, Mich., 1940. 32p. Michigan state college.
Extension division. Extension bulletin no.20 (revised).

Hydraulics.

Application of hydrometeorology to engineering problems. By Merrill
Bernard. In Proceedings of Hydraulics conference. Iowa
City, Iowa, 1940. University of Iowa studies. Studies in
engineering. Bulletin no.20. p.69-80.

Compilation of reports on hydraulic model studies. By G. E. Barnes.
In Proceedings of Hydraulics conference. Iowa City, Iowa,
1940. University of Iowa studies. Studies in engineering.
Bulletin no.20. p.131-141. "Bibliography": p.141.

Demonstration of fluid mechanics phenomena. By R. A. Dodge.
In Proceedings of Hydraulics conference. Iowa City, Iowa,
1940. University of Iowa studies. Studies in engineering.
Bulletin no.20. p.124-128.

Dimensional analysis. By K. C. Reynolds. In Proceedings of
Hydraulics conference. Iowa City, Iowa, 1940. University
of Iowa studies. Studies in engineering. Bulletin no.20.
p.105-118. "References": p.118.

Experimental studies of liquid turbulence. By A. A. Kalinske.
In Proceedings of Hydraulics conference. Iowa City, Iowa,
1940. University of Iowa studies. Studies in engineering.
Bulletin no.20. p.50-65. "Bibliography": p.65.

Hydraulics. (Cont'd).

- Historical development of experimental hydraulics. By C. E. Bardsley. In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940. University of Iowa studies. Studies in engineering. Bulletin no.20. p.3-5.
- Hydraulic model testing in the spotlight. By P. W. Thompson. In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940. University of Iowa studies. Studies in engineering. Bulletin no.20. p.21-30.
- Hydraulic models--Geometrical or distorted. By H. D. Vogel. In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940. University of Iowa studies. Studies in engineering. Bulletin no.20. p.173-177.
- Hydraulics of the late 18th century. By J. J. Doland. In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940. University of Iowa studies. Studies in engineering. Bulletin no.20. p.6-16.
- Practical hydraulics. By P. S. Wilson. Water works and sewerage. Reference and data section. v.87,no.4. April, 1940. p.26-29.
- Proceedings of Hydraulics conference. Edited by J. W. Howe. Iowa City, Iowa, 1940. 247p. University of Iowa studies. Studies in engineering. Bulletin no.20.
- Results of a model study of the Cameron-Rutledge mill, New Salem, Illinois. By W. J. Putnam. In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940. University of Iowa studies. Studies in engineering. Bulletin no.20. p.17-20.
- Use of analogies in fluid mechanics. By E. W. Lane. In Proceedings of Hydraulics conference. Iowa City, Iowa, 1940. University of Iowa studies. Studies in engineering. Bulletin no.20. p.119-123.

Insulation.

- Glass insulation. By Microfarad. Electrical review. v.126,no.3241. January 5, 1940. p.9. Advantages and limitations.

Irrigation.

- Irrigation and stabilized agriculture. By M. H. Davison. In Thirty-first biennial report of the Kansas State board of agriculture...for the years 1937 and 1938. Topeka, Kansas State board of agriculture, 1938. p.80-89.

Irrigation Wells.

Putting down and developing wells for irrigation. By Carl Rohwer.
Washington, D.C., 1940. 86p. "Literature cited": p.83-85."
U.S. Department of agriculture. Circular no.546.

Land Utilization.

Better rural life in South Carolina through land use planning.
By M. L. Wilson. Washington, D.C., 1940. 14p. mimeo-
graphed. U.S. Department of agriculture. Extension service.
Circular no.329.

Some economic aspects of the Upland watershed lands of the western
United States. By Mont H. Saunderson. Journal of land and
public utility economics. v.15,no.4. November, 1939.
p.480-482. Valuation of watershed lands. Values of other
uses of watershed lands. Watershed values and grazing values.
Analysis of capital values, income, and number of farm families
that are dependent directly upon watershed resource shows how
extremely important it is that this resource be maintained in
future. Potential damage to range-land and timber-land values
through misuse and mismanagement is small in contrast to poten-
tial damage from impairment of value of watersheds.

Lighting.

Standards for lighting. Architectural record. v.87,no.3.
March, 1940. p.98-99.

Survey and analysis of the present lighting condition in homes.
By E. W. Commery. Illuminating engineering society. Trans-
actions. v.34,no.9. November, 1939. p.1003-1023.
Paper discusses and analyzes nation-wide survey made on repre-
sentative group of homes to obtain comprehensive view of lighting
in actual use today. Effort is made to appraise such improve-
ments as have occurred and to present such deficiencies as exist
for guidance of designers, manufacturers, sales organizations,
educators, and students. Survey covers about equal number of
renters and owners, about equally divided too with annual in-
comes below and above \$2,000.00 per family. Sixty-six per cent
of the homes are located in communities with populations over
10,000, while the remaining thirty-four per cent reside in
communities having less than 10,000 population.

Analysis of survey indicates briefly: (1) great dissatisfac-
tion with inadequacy of convenience outlets; (2) strong desire
for new floor and table lamps; (3) encouraging use of certified
I. E. S. types; (4) significant demand for new ceiling luminaires;
(5) approximately thirty per cent increase in connected lighting
load since 1924; and (6) marked decrease in percentages of drop-
cards in kitchens, bedrooms and bathrooms, but with almost one-
half of all ceiling luminaires in bare-lamp class. Long period
during which bare-lamp ceiling showers were sold has left its
effect on homes of country. Three-fourths of shower fixtures
are unshaded.

Lubrication.

Service performance of eight lubricating oils in automobile engines.
By H. A. Everett and G. H. Keller. State College, Penna.,
1940. 39p. Bibliography: p.37-38. Pennsylvania state
college. Engineering experiment station series bulletin no.50.

Miscellaneous.

Directory of organization and field activities of the Department
of agriculture: 1939. Washington, U.S. Govt.print.off., 1940.
204p. U.S. Department of agriculture. Miscellaneous publi-
cation no.376.

Foreign commerce and navigation of the United States for the calendar
year 1938. Compiled by the Division of Foreign trade statis-
tics, Bureau of foreign and domestic commerce. Washington,
U.S. Govt.print.off., 1940. 983p.

Incorporated bureaucracy. By Harry Flood Byrd. Manufacturers
record. v.109,no.3. March, 1940. p.24-25,54.
Thirty-one corporate agencies of Federal government with 1476
separate organizations submit their financial report.

Proceedings of the Association of land-grant colleges and univer-
sities. Fifty-third annual convention, Washington, D.C.,
November 15-17, 1939. New Haven, Conn., Quinnipiac press,
inc., 1940. 341p.

Some uses of plant hormones. By R. W. Oliver and N. H. Grace.
Ottawa, Canada, 1940. 12p. Dominion of Canada.
Department of agriculture. Publication no.665. Circular no.148.

Suggested list of cook books. Compiled by D. W. Graf.
Washington, U.S. Bureau of Agricultural chemistry and engineering,
1940. 5p. mimeographed.

Motor Fuel.

Official specification for portable gas-producer fuels.
Engineering. v.149,no.3865. February 9, 1940. p.150.

Producer gas-driven motor vehicles. By David Brownlie.
Made in India. Supplement to Indian engineering. January,
1940. p.4-5,19.

Producer gas plants for motorists. Country life.
v.87,no.2244. January 20, 1940. p.30.

Motors, Electric.

Selecting the motor for the work. By George H. Hall. Engineering
news-record. v.124,no.9. February 29, 1940. p.56-59.
Available types of motors are squirrel cage and wound rotor.

Motors, Electric. (Cont'd).

Squirrel cage is best for constant-speed operation. In larger sizes it requires compensator to reduce current for slow starting. Also it may be operated at different speeds by varying number of poles. Wound rotor motor is best for adjustable speed and for high starting torque. Motor ratings as based on safe temperatures for windings and should be adhered to.

Painting.

Moisture peeling of house paints. By J. W. Iliff and R. B. Davis. Industrial and engineering chemistry. Industrial edition. v.31,no.11. November, 1939. p.1407-1412. House paint failure due to moisture is increasing to alarming extent, especially in certain sections of country. Testing method for moisture failure is described. Heated humidified building, thermostatically controlled, is used: however, it is effective only in cold weather. It is equipped so that test fence panels may be further tested over certain structural variables. Method of recording and interpreting results is described. It is concluded that tar paper has only limited favorable effect in prevention of moisture failure, blocking of air circulation behind painted areas has adverse effect, within certain limitations sealing of interior moisture from exterior painted surfaces has favorable effect, and introduction of exterior air behind painted areas has very favorable effect.

Moisture peeling of house paints. By J. W. Iliff and R. B. Davis. Industrial and engineering chemistry. v.31,no.12. December, 1939. p.1446-1450. Three sources of moisture are discussed: condensation, direct water contact, and driving of water directly through paint film from outside. Condition of paint film and its relation to moisture failure are described. Of three sources of moisture, condensation and direct water contact are by far most important. Temperature gradient through wall with paint on cold side is necessary for failure resulting from condensation. Temperature gradient through wall with paint on cold side accelerates failure by direct water contact.

Moisture failure rarely occurs until wood at paintwood interface approaches or reaches saturation. Moisture failure does not occur with film whose integrity is low enough so that moisture will pass out as rapidly as it appears. Permeability of none of common paint types is sufficient to prevent failure. New and flexible paint films fail by blistering, and as rigidity of film increases, blistering becomes peeling. Repaint jobs over old paint for this reason usually show only peeling failure.

Paint. House and garden. v.77,no.3. March, 1940. p.22-23,48-50. Importance of good paint. Cost of paint protection. Proper surface preparation is essential. Effect of chemical research.

Patents.

Index of patents issued from the United States Patent office, 1939.
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